

Adm. Inman In Command At Consortium

MCC Research Team Ready for Business

By Michael Schrage
Washington Post Staff Writer

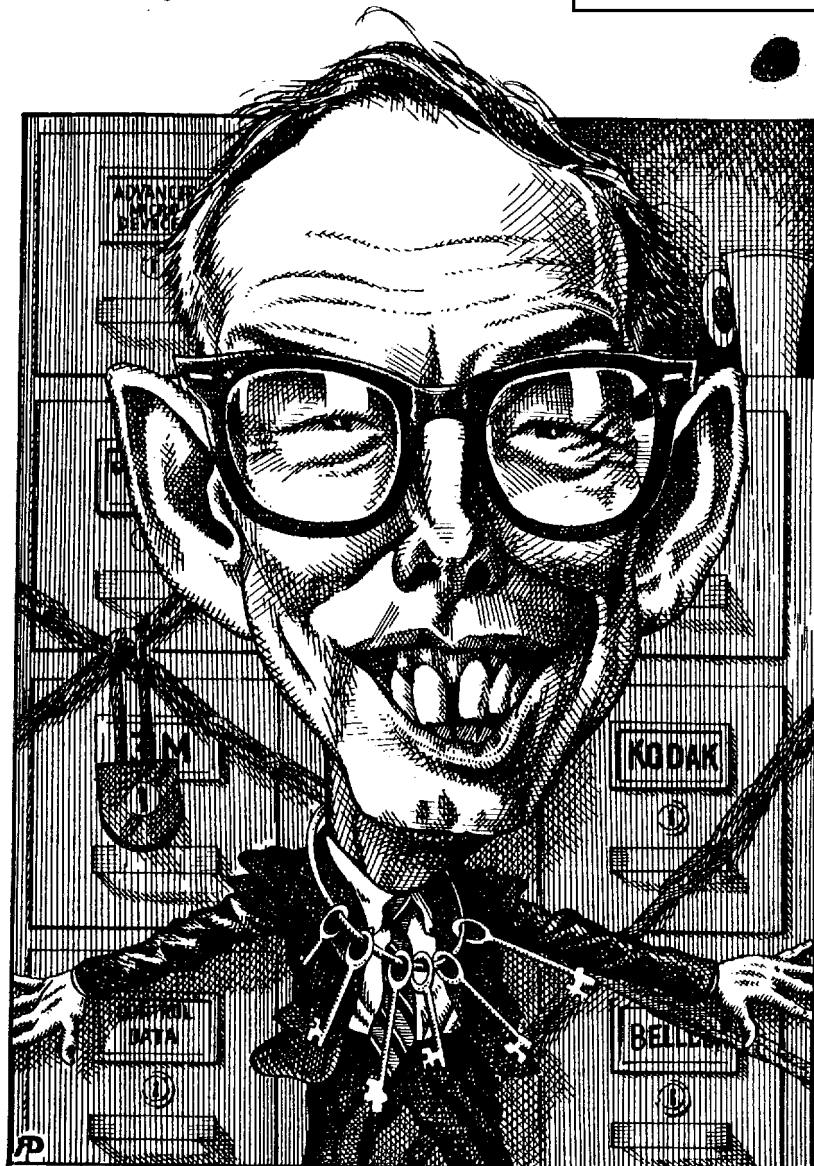
AUSTIN, Tex.—With the skill and savvy that once made him Washington's consummate high technocrat, retired admiral Bobby Ray Inman has turned his talents from the classified to the proprietary.

The man who managed this country's most sophisticated national security technologies—he ran the National Security Agency from 1977 to 1981 and served as deputy director of the CIA—has glided smoothly to the private sector, where he now bids to become the unofficial U.S. ambassador of innovation.

"Much to my surprise, I haven't needed to adapt my management style at all," said Inman, with a disarming deployment of his gap-toothed grin. "The management skills I've acquired through trial and painful error are serving me well here."

Inman is chairman and chief executive officer of MCC—the Microelectronics and Computer Technology Corp. research consortium—which presents itself as the American computer industry's response to Japan's highly publicized "Fifth Generation" computer challenge for global supremacy in the information-processing industry.

The creation of Control Data Corp. Chairman William C. Norris in 1982, MCC was seen as new cooperative venture by American companies to achieve breakthroughs in areas of basic research crucial to the evolution of information technology. The idea was that member companies would finance establishment of the venture, underwrite its research programs, and lend it some of their top scientists and engineers. Norris argued that a combined approach would prove



RETIRED ADMIRAL BOBBY RAY INMAN, BY RAY DRIVER FOR THE WASHINGTON POST

more cost-effective than any one company's individual efforts in this risky and capital intensive industry.

In many respects, MCC is the forerunner and model of what may prove to be the next generation of industry research and development—a cooperative of companies that share first-level research and development efforts that later will become proprietary products. MCC has about 300 employees and an annual budget approaching \$100 million but has not disclosed what is being spent on specific programs.

"Mid- and small-sized companies simply don't sustain long and broad-scaled research in an industry where the prospect for technological surprise is high," Inman said.

Inman, who had retired from public service in July 1982, was assid-

uously wooed by Norris and other MCC members. He formally came on board in January 1983.

A superb politician with an ability to implement an agenda, he surprised and annoyed many of the members of his board by consistently rejecting many of the researchers initially offered up by the member companies as simply not good enough.

Moreover, although MCC's seven research programs—which range from semiconductor packaging to new computer architectures to parallel processing—originally were supposed to be run by scientists from MCC member companies, it turns out that six of the seven are independent and highly re-

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spected scientists individually recruited by Inman himself. Clearly, Inman has not lost his Washington-honed touch for assuring a comfortable level of autonomy.

Flashing the smile, Inman declines to view it that way, saying only that "we've been damn lucky" in getting the people he's recruited.

"I think he's a very effective leader," said MCC board member Samuel H. Fuller, Digital Equipment Corp.'s vice president for research and architecture. "He's strong and outspoken, and when you're trying to get 21 corporations to cooperate on something, that's what you often need to be."

Another board member, who asked not to be identified, asserted that Inman liked to create or impose a consensus rather than seek one. But he conceded that Inman was "very, very effective at managing us and managing our expectations."

Though MCC has been in operation for less than three years and has yet to publish any significant research, it already has captured some of the top researchers in computer science and a reputation as an intellectually exciting place to work. Teams of computer scientists are exploring futuristic forms of computer software that would imbue computers with a "common sense" capability at problem solving, for example. Other specialists are looking at computer-aided approaches to help crowd hundreds of millions of circuits on a silicon chip. Inman unabashedly asserts that MCC "is clearly a winner."

But MCC's member companies and Inman all concede that the real test of the consortium is just now beginning: Will MCC's research and development efforts ultimately translate into innovative products and services that give its members a technical edge in the marketplace?

"We've completed the start-up phase and it's now down to the business of research," said DEC's Fuller. "The hard problem is going to be technology transfer."

"My primary worry is technology transfer," said Inman. "I can't guarantee that all these companies will use these technologies."

In fact, that issue is of such paramount concern that Inman formed an ad hoc committee to force MCC members to address the technology-transfer questions within their own companies.

Even in the fast-paced high-technology industry, effecting a smooth transfer from basic research to prototype to production model has proven to be one of the thorniest problems facing American companies. Academic commentators on industry from Robert Reich to Ezra Vogel all comment that Japanese industry's skills at quickly bringing innovations to market give it a competitive edge.

"There's one resource that's scarce and that's time," said Palle Smidt, MCC's senior vice president of plans and programs. "There's more competition out there now. Revenue life cycles are down, product life cycles are down."

That creates an inherent tension in MCC, Smidt concedes. As computer product life cycles shrink with the pace of technological change, figuring out what constitutes useful long-range research becomes increasingly difficult. When does "long range" research blur into something with immediate commercial possibilities?

Inman and Smidt are leaving that up to the individual companies to decide.

"Our shareholders now have uninhibited access to the developmental know-how in their programs," said Smidt. "And in 12 to 18 months I think we'll see experimental uses and elements of our output in commercial use."

However, Inman concedes that MCC can succeed brilliantly as a research and development organization but ultimately fail in its mission if member companies are unwilling or unable to accommodate themselves to the flow of technologies that emerge from the consortium.

Indeed, Inman and Smidt agree that, with 21 major organizations participating, the odds are great that not all of them will prove adept at swiftly assimilating MCC technology. That could mean that four or five of the most aggressive corporations with a clear technology transfer plan reap the commercial benefits of the investments made by the other members. In essence, the slower companies effectively will have subsidized their competitors' advantage. That could lead to several companies choosing to drop out of the consortium.

In other words, MCC's very success could sow the seeds of discord. Inman says the consortium "could be viable with 14 or 15 members,"

he hastens to add that he doesn't expect more than two or three of the 21 companies to drop out over the near term.

Actually, Inman seems more intent on attracting and keeping key researchers than mollifying certain shareholder problems. "I've tried to give them the feeling that they're the members of a club—an exclusive group, an elite group," far more so than he's done with his shareholders, Inman said.

The Austin location has not proven detrimental in attracting researchers from California or Ivy League climes, and Inman cleverly has secured a diversity of shareholders ranging from Boeing Co. to Eastman Kodak Co. to Minnesota Mining

& Manufacturing Co. to assure that researchers have a broad market of companies for their innovations.

A random sampling of researchers affiliated with MCC reveals that they are happy with their working environment, adequately compensated and optimistic about the prospects for the application of their research.

"I think Inman has set the right tone for this place," said Doug Lenat, an artificial-intelligence researcher who came from Stanford University and the Xerox Palo Alto Research Center.

However, the tone also includes an overwhelming concern for the proprietary nature of the research. Elevators are equipped with special locking devices that prevent individuals without the appropriate card keys from having access to certain floors at the Austin complex of black glass buildings. Indeed, the seven programs are carefully partitioned so that companies not funding certain programs are expressly prohibited from receiving information from them.

Similarly, researchers—who traditionally have published papers and presented their findings in conferences—are reluctant to disclose anything beyond the sketchiest details of their work.

Indeed, Inman declines to publicly disclose the research milestones of MCC, arguing that, as a private enterprise, the organization is under no obligation to do so. Consequently, though, there is no real external way then of measuring how well MCC's disparate research programs are doing.

DEC's Fuller insists that "It's at least as ambitious as Japan's Fifth Generation" goals and that the 10-year research program is "right on schedule."

Inman visibly bristles at suggestions that this concern for secrecy reflects his national security background. He points out that he has a responsibility to protect his shareholders' investments—more important, he stresses that the lines be-

tween basic and applied research and development have blurred to the point that more information has to be considered proprietary and protected accordingly.

However, it may well be that MCC—as a consortium—helps define the new level of proprietary emphasis as companies increasingly rely on secrecy as well as innovation to protect a technical edge in the marketplace.

Rather than see secrecy emphasis as a threat to innovation, Inman sees it as a part of the reality of intensifying global competition.

The current membership is Advanced Micro Devices Inc., Allied Corp., BMC Industries Corp., Bell Communications Research (Bellcor), Boeing, Control Data, Digital Equipment, Eastman Kodak, Gould Inc., Harris Corp., Honeywell Inc., Lockheed Corp., Martin Marietta, 3M, United Technologies Corp., Motorola Inc., NCR Inc., Rockwell International Corp. and Sperry Corp. Reportedly, General Motors Corp., flush with its acquisitions of Electronic Data Systems Corp. and Hughes Aircraft, also is exploring an MCC membership.

Embassy safeguards cost put at \$4 billion

STATINTL

By Bill Gertz
THE WASHINGTON TIMES

Security measures to protect U.S. embassies against terrorist attacks will cost about \$4 billion, the CIA's former deputy director, retired Adm. Bobby Ray Inman, told Congress yesterday.

The career intelligence officer told the Senate Foreign Relations Committee that estimates for rebuilding or restructuring State Department facilities overseas initially ran as high as \$7.5 billion. Final estimates, based on a report last month, are \$3.5 billion to \$4 billion, he said.

Adm. Inman headed the Secretary of State's Advisory Panel on Overseas Security, which was formed a year ago to find ways to protect U.S. embassies against terrorist attacks. The panel's report, issued last month, calls for setting up a Diplomatic Security Service, a new building program, a capital trust fund to protect the security program from the uncertainty of congressional budget authorizations, and a global diplomatic offensive against terrorism.

"The panel was persuaded that this country ought to engage in a sustained, broad diplomatic offensive to try to persuade the family of nations that terrorism must be dealt with collectively, and that if it is not dealt with collectively, the U.S. will ultimately act unilaterally," Adm. Inman said.

He said the panel discussed various options for embassy security, such as establishing "fortress" facilities modeled after Soviet Embassy and consular compounds, applying state-of-the-art security systems and using armored personnel carriers.

He said the panel rejected the notion that all embassy facilities

should be "totally open," to promote better diplomatic representation and express the openness of American society.

But, he said, "There is no requirement for Americans to be targets for assassins."

He also called for establishing standards of accountability to determine if "blame can be assigned" when "human failings" are uncovered in investigations of major terrorist attacks.

The cornerstone of the panel's report is its recommendation that a Diplomatic Security Service be established within the State Department. The new agency would be modeled after the U.S. Secret Service and would have security and intelligence responsibilities for embassies. It would be headed by an assistant secretary of state for diplomatic security.

Adm. Inman said the service would not try to usurp the role of ambassadors but would recruit intelligence and security professionals of such high caliber that embassy officials would seek out their advice.

In prepared testimony, Adm. Inman said terrorist incidents against U.S. overseas personnel, both official and private, have "steadily increased." He urged the administration to adopt "a sound policy on dealing with actual terrorists acts." The administration should "stop talking about it until they have that policy, then announce it and stop talking about it," Adm. Inman said.

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USA TODAY

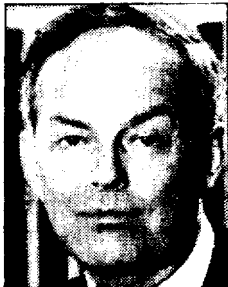
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USA TODAY'S SPECIAL REPORTS FROM THE CAPITAL

STATINTL

Security panel suggests recall of some diplomats



By Tim Dillon, USA TODAY

INMAN: Questions security risk abroad

Advisory Panel on Overseas Security, wants almost half the U.S. embassies and other foreign posts modernized or rebuilt for \$4 billion and a special security force recruited.

The chairman of a State Department panel studying security at embassies abroad told Congress Tuesday the United States may simply have to pull diplomats out of some countries to save lives. Retired Adm. Bobby R. Inman, former deputy director of the CIA, said, "If a foreign government finds it unacceptable or is unwilling to provide security for our conduct of diplomatic business, then we have great questions about what the size of our presence should be in that nation." Inman, head of the

BY ROBERT KNIGHT
CHICAGO

STATINTL

The high-technology "think tank" combining the resources of 21 leading companies is forging ahead with its research and development despite the slowdown pervading the industry, the head of the program says.

"There has been absolutely no cutback in programs," Admiral Bobby Inman, chief executive of Microelectronics and Computer Technology Corp. in Austin, Texas, told Reuters in an interview.

Inman, in Chicago to give the keynote speech at the National Computer Conference, said in fact the consortium had expanded some of its largest programs.

MCC was forged 2 1/2 years ago by American high technology companies in response to government-backed programs in Europe and Japan that fostered joint research projects. It now has 338 employees, almost all of them scientists.

Each participating company agrees to support research activities in at least one of four key programs -- the packaging of semiconductors and their interconnect technology, software technology, computer-aided design of very large-scale integrated chips, and advanced computer architecture.

Inman predicted that many programs would not bear results for eight to 10 years, although some participants already had seen side-benefits areas such as software uses.

Most of the eventual results would benefit information processing, especially in the office, he explained. There would also be direct applications for defense and aerospace.

"All of the emerging technologies -- telecommunications, aerospace, microelectronics, materials processing, energy and biotechnology -- can be served by advances in information technologies," he said.

The most complex of MCC's four programs is advanced computer architecture, Inman continued.

This covers the development of parallel processing, increasing the flexibility of the storage and retrieval of information through improved database designs, simplifying computers for human use, and developing artificial intelligence to make computers think more like humans.

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MCC intends to receive royalties on the basic research and development it offers its corporate investors, who have paid as much as \$1 million for the privilege.

These companies will also get three years' proprietary use of the research data developed by MCC before the technology is made available through licensing agreements.

Inman said the companies did not have to worry about losing trade secrets, a problem raised by several companies not involved in the consortium.

His experience as deputy director of the Central Intelligence Agency from 1981-82 and head of the U.S. National Security Agency from 1977-81 gives him the credibility to handle concerns about theft of information, he insisted.

"We don't have to worry about trade secrets; that's the the beauty of going after long-range research," he said.

"We're not sharing information. We're sharing people. We're sharing access to what they create, and that means that nobody's going to go to the marketplace with a total surprise. They will have to focus on good design, quality control and skillful marketing."

MCC members are Advanced Micro Devices, Allied Corp., BMC Industries, Bell Communications Research, Boeing Co., Control Data Corp., Digital Equipment Corp., Gould, Harris Corp., Honeywell, Lockheed Corp., Martin Marietta Corp., Mostek Corp., Motorola, NCR Corp., National Semiconductor Corp., RCA Corp., Rockwell International Corp., Sperry Corp., 3M Corp. and Eastman Kodak Co.